INCORPORATING TRADITIONAL BIRTH ATTENDANTS IN THE HOSPITAL BIRTH EXPERIENCE: A PROPOSAL TO THE MINISTRY OF HEALTH IN ZANZIBAR, TANZANIA

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ABSTRACT

Between 1990 and 2015 the number of maternal deaths worldwide decreased 44% from 532,000 to 303,000 women per year.[8-9] Despite this progress, 830 women still die every day as a result of delivery and other pregnancy-related causes.[8-9] To address these high levels of maternal mortality, the United Nations has set further long-term goals for improvement worldwide through the Sustainable Development Goals (SDGs).[19-20] Because the world did not meet the 5th Millennium Development Goal of reducing the Maternal Mortality Ratio (MMR) by 75% by 2015, maternal mortality remains a priority under Goal 3 of the SDGs. As a result, the Strategies Toward Ending Preventable Maternal Mortality (EPMM Strategies) were published by the World Health Organization (WHO) in February of 2015.[60] Globally, these targets aim to reduce the MMR to fewer than 70 maternal deaths per 100,000 live births by 2030.[60] However, the WHO recognizes that this target is not realistic and has set an alternative 'National Targets' goal in which countries should aim to reduce their MMRs by at least two-thirds from their 2010 baseline measurements.[60] Meeting these goals will not be an easy task, and many difficulties remain. Zanzibar, Tanzania, is an example of a region that is attempting to meet these demanding goals through the creation of well-intentioned policies.

The Zanzibari government increasingly emphasizes the hospital setting as the best location to give birth. However, these policies do not conform to the cultural standards that have been in existence for generations. Traditionally, labor and delivery have often taken place in the domestic setting accompanied by Traditional Birth Attendants (TBAs). TBAs are respected and locally recognized women who have deep experience with birthing and delivery and are often relied upon to help women in labor. These women play an important and respected role within the community. However, under current rules, they are precluded from the hospital setting.

This disconnect between the current recommendations and social reality is causing a multitude of challenges for women and those working to assist them during their pregnancy and labor. Health Improvement Project Zanzibar (HIPZ) was tasked with formulating a proposal to bridge these gaps by the Zanzibar Ministry of Health. To more wholly understand the reality of the situation, semi-structured interviews and focus groups were conducted. Throughout the process, 73 TBAs and 20 mothers with a variety of birthing experiences were interviewed along with a representative cross-section of men to build a comprehensive understanding of labor, delivery, and the associated challenges from the perspective of the local population. This information has been subsequently used to devise, in the context of Zanzibari culture, a proposal for the Ministry of Health regarding the official incorporation of TBAs into the hospital system. This paper discusses this proposal and how it came to fruition based on the information collected from these interviews, background literature, and personal experience after living in Tanzania for four years from July 2013 to May 2017.

BIOGRAPHICAL SKETCH

Caitlin Baumhart is a professional master's degree candidate in International Development with a focus in maternal and public health. She also holds a Bachelor of Science from Cornell University in Biology.

Prior to her master's degree, she joined the U.S. Peace Corps. In July of 2013, Caitlin moved to Tanzania where she taught Chemistry and Biology at an all-female Secondary School for 27 months. In January 2016 she began her Peace Corps Extension with Health Improvement Project Zanzibar, where she worked as the Community Outreach Volunteer in order to help coordinate and improve maternal health projects and services. While bridging the gap between the hospital and community, Caitlin worked closely with the Traditional Birth Attendants on the island.

After finishing her MPS degree, Caitlin will join the Master of Public Health program at Cornell University.

I would like to dedicate this paper to all the Traditional Birth Attendants and Mamas who granted me the honor of hearing their stories about pregnancy, birth, delivery, and life.

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF ABBREVIATIONS

AMO	Assistant Medical Officer
DHMT	District Health Management Team
HIPZ	Health Improvement Project Zanzibar
KIV	Kivunge Hospital
MAK	Makunduchi Hospital
MMR	Maternal Mortality Ratio
MMH	Mnazi Mmoja Hospital
MOU	Memorandum of Understanding
MOH	Ministry of Health
PHCC	Primary Health Care Centers
PHCU	Primary Health Care Units
TSH	Tanzanian Shillings
WHO	World Health Organization

CHAPTER 1

INTRODUCTION

While some progress and improvements have been made, maternal healthcare and maternal mortality still require major enhancements for the improvement of maternal health worldwide. Between 1990 and 2015 the number of maternal deaths worldwide decreased 44% from 532,000 to 303,000 women per year.[8-9] Despite this progress, 830 women still die every day as a result of delivery complications and other pregnancy-related causes.[8-9] The rates of maternal mortality, however, are not evenly distributed across the globe. The majority of maternal deaths occur in low-income countries and about half of those deaths are in sub-Saharan Africa, which includes Tanzania's semi-autonomous islands: Zanzibar.

While steps have been taken at an international level through the MDGs and SDGs, Zanzibar is also taking action locally to reduce maternal mortality on the island of Unguja. However, this is no easy task, as the local delivery experience is extremely complex and has many nuances and influencing factors that affect maternal health. Because of this, Zanzibar's Ministry of Health decided to collaborate with a British NGO, Health Improvement Project Zanzibar (HIPZ). This organization was jointly shaped by two previous surgical colleagues, Dr. Mohammed Jiddawi, the retired Zanzibar Minister of Health, and Dr. Ruaraidh MacDonagh, a surgical consultant in the UK.

Like other areas in East Africa, Zanzibar has had difficulties meeting the international goals set by the MDGs and SDGs. However, the Zanzibar government is continuously working to meet these demanding goals and improve maternal healthcare. In their earlier attempts to reduce maternal mortality, Zanzibar created well-intentioned policies to promote and support safer

deliveries. These policies have promoted hospitals as the best, safest locations for delivery and have eliminated training programs for Traditional Birth Attendants, who have overseen home deliveries for generations. Historically, labor and delivery have often taken place in the domestic setting accompanied by Traditional Birth Attendants (TBAs). TBAs are respected and locally recognized women who have deep experience with birthing and delivery and are often relied upon to help women in labor. These women play an important and respected role within the community. However, under current rules, they are excluded from the hospital setting. The new policies and hospital norms also discourage women from delivering at home and public health messaging focus heavily on encouraging women to only deliver at the hospital or other healthcare facility. However, these policies are incompatible with the cultural standards that have been in existence for generations.

This increasing emphasis on the hospital setting as the best location to give birth is based on the idea that delivery complications cannot be managed at home as TBAs do not have the training or medical supplies to cope with these dangers. Additionally, local transport is unreliable, locals do not own vehicles (and if they do, it is too expensive) and emergency transportation from local communities to the hospitals does not exist. Because of these circumstances, complications such as hemorrhaging are extremely dangerous. However, despite all this being well-known among local communities, there are still many barriers that prevent women from delivering at a facility.

To reduce the chances of women dying from delivery complications at home, the Ministry of Health implemented the aforementioned policies, however, these policies do not conform to the cultural standards that have been in existence for generations. Additionally, the hospitals and other

healthcare facilities do not have the capacity, space, or resources to facilitate all these deliveries, which heavily influences women's decisions on where to deliver. This, along with the inability to actually enforce the policies, causes them to be less effective.

This disconnect between the rules and social reality is causing a multitude of challenges for both women and those working to assist them during their pregnancy and labor. The Ministry of Health has recognized these challenges and discrepancies and is looking for improvements or alternative methods for reducing maternal mortality and associated complications. Health Improvement Project Zanzibar (HIPZ) was tasked with formulating a proposal to bridge these gaps by the Zanzibar Ministry of Health. In order to successfully complete this task, it was clear that research needed to be conducted due to the complexity and nuances associated with all aspects of pregnancy and delivery in Zanzibar. To more wholly understand the reality of the situation, semi-structured interviews and focus groups were conducted. Throughout the process, 73 TBAs and 20 mothers with a variety of birthing experiences were interviewed along with a representative cross-section of men to build a comprehensive understanding of labor, delivery, and the associated challenges from the perspective of the local population.

A better understanding of the local social determinants of health and other influencing factors that affect all facets of maternal health was obtained through the gathering of this information. Additionally, the voices of local women, such as the TBAs and mothers, were finally included in the conversation about their own healthcare. Through this process a comprehensive amount of data was gathered. This information has been subsequently used to devise, in the context of Zanzibari culture, a proposal for the Ministry of Health. This proposal outlines a plan to officially incorporate TBAs into the hospital system to provide laboring women with more

emotional support and care, which will positively influence women's decisions to delivery at a health care facility, rather than at home.

CHAPTER 2

BACKGROUND: MATERNAL HEALTH

Maternal Health

There are 1,864,890,345 or approximately 1.86 billion women of reproductive age worldwide according to the United States Census Bureau.[1] A woman's reproductive age encompasses the entire period during which a woman may become pregnant. It typically spans from 15 to 49 years old on average; this is 34 years of a woman's life. Reproductive age lasts for more than half the average woman's lifespan and yet the health care provided for women during this portion of their life is severely lacking and inadequate. Maternal health, as defined by the World Health Organization (WHO), describes the health of women during pregnancy, childbirth, and the postpartum period.[2] The amount of specialized care and guidance available and accessible during this time period is unacceptably low especially given that half the world's population is capable of becoming pregnant.

Maternal Mortality

Maternal Mortality: Definition

Maternal mortality is defined by the World Health Organization as "the death of a woman while pregnant, during delivery, or within 42 days of terminating a pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes".[3] Essentially, these are pregnancy-related deaths that are caused by complications of the pregnancy itself, a chain of events initiated by a pregnancy, or the aggravation of an unrelated condition or event by the physiologic effects of pregnancy.[4]

There is a wide range of immediate and underlying causes that result in maternal mortality; these include hemorrhaging (severe bleeding), infections, high blood pressure, delivery complications, and unsafe abortions.[5] These five causes account for 75% of all maternal deaths worldwide.[5] Many of the complications which arise during, or which are exacerbated by, pregnancy are preventable, manageable and/or treatable. Despite this, many women are still not receiving the essential care that is required to prevent these unnecessary deaths. However, the distributions of maternal deaths attributable to different causes vary between global regions and between countries, so it is important to specialize interventions based upon those differences.

Maternal Mortality: Measurement

Maternal mortality is often stated as a rate. The maternal mortality rate is the chance of a reproductive-aged woman dying from pregnancy-related causes or complications during a specific time period: [6]

$$\frac{Number\ of\ Pregnancy\text{–}Related\ Deaths}{Number\ of\ Women\ of\ Reproductive\ Age}\ \text{x}\ 100{,}000$$

This measurement, however, differs from the Maternal Mortality Ratio, or MMR, which is how maternal mortality is usually expressed. The MMR is the number of women who die as a result of complications from pregnancy or childbearing in a given year per 100,000 live births. It is the chance of dying due to complications *of an individual pregnancy* over a specific time period.[6]

$$\frac{Number\ of\ Pregnancy\text{–}Related\ Deaths}{Number\ of\ Live\ Births}\ \text{x}\ 100{,}000$$

Maternal mortality is usually expressed as a ratio because it more easily allows for inter-country comparisons. The ratio takes into account the number of pregnancies and births in a population.

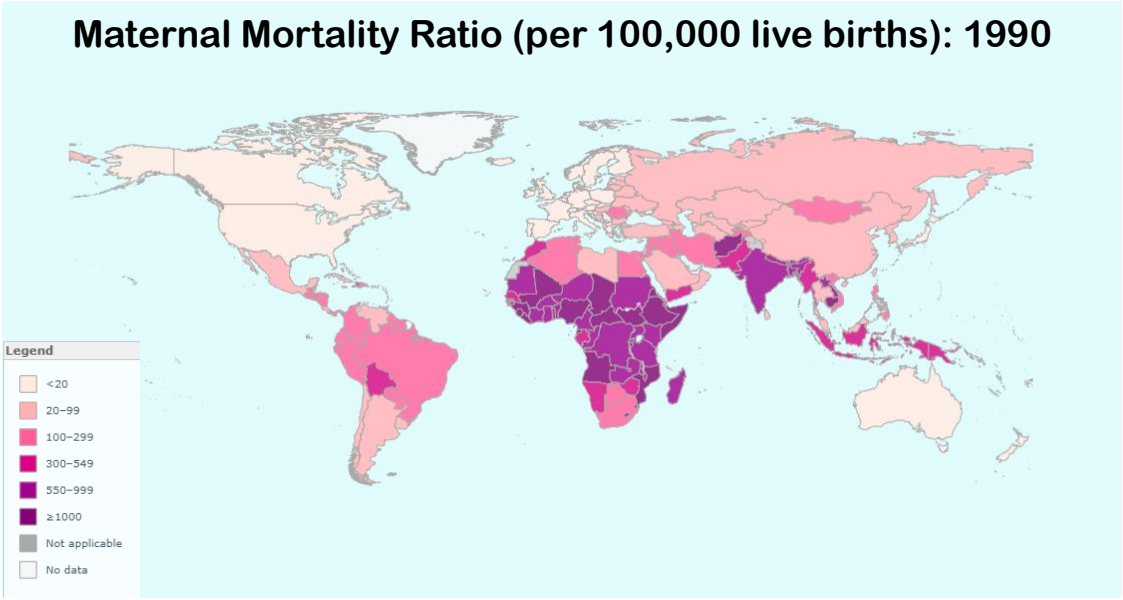
With the maternal mortality rate, the value can comparably seem very low not because fewer pregnancies result in maternal death but because there are fewer pregnancies in the population even though the risk of dying during a pregnancy is high. The maternal mortality ratio on the other hand is a more direct measure of risky pregnancy.

The global MMR is 216:100,000 while the MMR in sub-Saharan Africa is 920: 100,000.[7] These values are not easy to calculate making accurate statistics limited, especially in low-income countries where resources may be inadequate. Often, determining whether a death is pregnancy related requires a committee and full review, which may be difficult especially if the death occurred during the early stages of pregnancy or if the death occurred weeks after delivery. In resource-limited environments, having such a committee would be a luxury and it often does not exist.

Maternal Mortality: Statistics

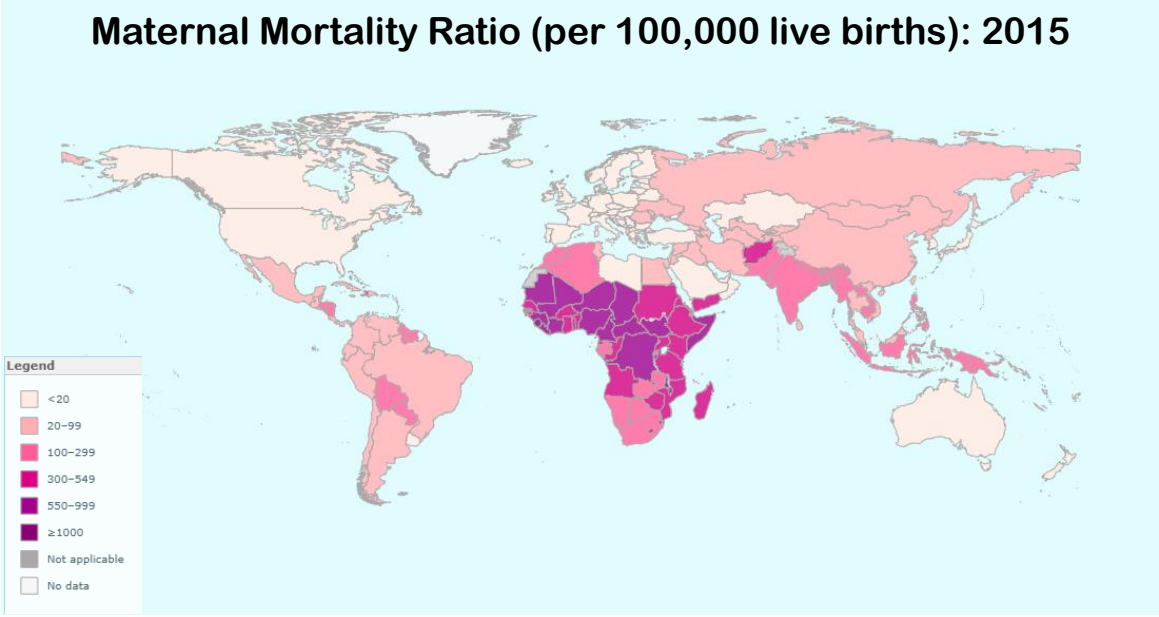
Between 1990 and 2015 the number of maternal deaths worldwide decreased from 532,000 to 303,000 women per year (*Figures 1 and 2*).[8-9] This is a 44% reduction in numbers and yet, despite this progress, 830 women still died every day due to delivery and other pregnancy-related causes.[8] The inter-country discrepancy is substantial as 99% of all maternal deaths occur in developing countries and more than half of those maternal deaths are from sub-Saharan Africa.[3]

Figure 1. Maternal Mortality Ratio 1990



Picture Retrieved from: http://gamapserver.who.int/gho/interactive_charts/mdg5_mm/atlas.html[9]

Figure 2. Maternal Mortality Ratio 2015



Picture Retrieved from: http://gamapserver.who.int/gho/interactive_charts/mdg5_mm/atlas.html [9]

These maps compare the 1990 and 2015 MMR. They visually show the 44% decrease over the 25 year period.[8-9]

Maternal Healthcare in sub-Saharan Africa

Traditional Care

African Culture: Women as Caregivers

In *African Feminism: A Worldwide Perspective*, Filomina Chioma Steady uses concepts such as communalism, cooperation, and parallel autonomy to explain the complementarity of the African societal structure.[10] This structure arose from the religious and cultural notion of women being the custodians of the earth.[10-11]

According to the stories, the Gods gave women power over the earth, and thus placed upon them the honorary responsibility of maintaining it.[10] As custodians and caretakers of the earth, women nurtured and provided the ability to endure and flourish.[10] These responsibilities aligned perfectly with their ability to carry, give life, and raise children. Women were powerful as they provided life for all things and their responsibilities were complemented by those of the men; everyone was part of the whole.[10-12] Colonialism, however, attempted to interrupt this balance but confining women to the home.[12] Despite these challenges, women never lost their power and role as caretakers and the providers of life on earth.[10-12] Though the title has changed over time, women have always extended their role as caregivers through supporting one another through labor and delivery. These roles continue today as local birthing attendants.

Traditional Birth Attendants: Who are they?

According to the World Health Organization and the United Nations, a Traditional Birth Attendant, or TBA is, "a person who assists mothers during childbirth and acquired her skills by delivering babies herself or through apprenticeship to other traditional birth attendants".[13-14] Their main priority is to provide immediate support for women during labor, delivery and the early

postpartum period. TBAs tend to be older women who are greatly respected among their communities. These women have learned their trade over many years and are trusted by members of the community. However, there is no official set of criteria required to be recognized as a TBA; there is no formal training and many of the women have not attended secondary school.[15] Depending on the circumstances, and if logistically feasible, TBAs also function as a link between the community and the health care facilities by escorting women to the facilities for delivery. TBAs often do not receive financial payment for their duties, but are usually compensated for their work with goods and services such as food or clothing.[16] Throughout history, the majority of women have obtained help with their deliveries from TBAs. Though their roles vary depending on the culture and location, there is a lot of evidence supporting that TBAs, though often an informal part, are important components in the overall system of maternal health in African countries.[17-18]

Current Care

Reducing Maternal Mortality on a Macrolevel

At the Millennium Summit of the United Nations in 2000, these statistics were considered severe enough to incorporate reducing maternal mortality to the Millennium Development Goals, or MDGs.[19] At the summit 8 international goals for 2015 were established with the idea of improving health through reducing international poverty levels. The MDGs were created as a definitive guide that would "provide concrete, numerical benchmarks for tackling poverty".[20] The fifth goal, or MDG 5, was to improve maternal health and it had two targets. The first, to reduce the maternal mortality ratio by ¾ between 1990 and 2015 and secondly, to achieve universal access to reproductive health by 2015.[21-22] Though there was progress towards attaining these targets, neither were accomplished by 2015 and since then, the Sustainable Development Goals, or SDGs, have been created to take their place. Rather than targeting maternal mortality directly, the new set

of 17 goals sets its sights on improving the factors that lead to maternal mortality such as inequality, poverty, sanitation and lack of education.[23]

Reducing Maternal Mortality on a Microlevel

There are many barriers that prevent women from receiving the essential healthcare and services that they require. Some of the factors include: poverty, education, lack of information, distance, inadequate services and cultural practices.[3] In order to improve maternal health and reduce maternal mortality the services must not only improve in quality, but they must also be utilized properly. All the best, most advanced hospital services can be developed and implemented, but it means very little if the people don't know how to utilize those services to the best of their ability. This means that improvements should not only be focused on advances in medicine and medical technology. It must be accompanied by an increase in information for the people who need those services. And it means that information and those services must both be available and accessible to everyone.

Keeping this in mind, Sereen Thaddeus and Deborah Maine developed and published a conceptual framework of a 3 – Delay Model that puts maternal mortality into the context of these factors and challenges (*Figure 3*).[24]

The model of the 3-delay system clearly shows that heavily focusing only on hospitals will not get the job done when it comes to improving maternal health. The importance of taking a holistic approach to improving healthcare has become exceedingly clear. While it is still important to improve staff knowledge, hospital infrastructure and hospital services, it is equally important to understand how the community views these services within their culture. These beliefs have been linked to three stages of delays:[24]

Stage 1: Delay in deciding to seek care

Stage 2: Delay in reaching a health facility

Stage 3: Delay in receiving care upon arrival at a healthcare facility

Figure 3. The 3 Delays Model

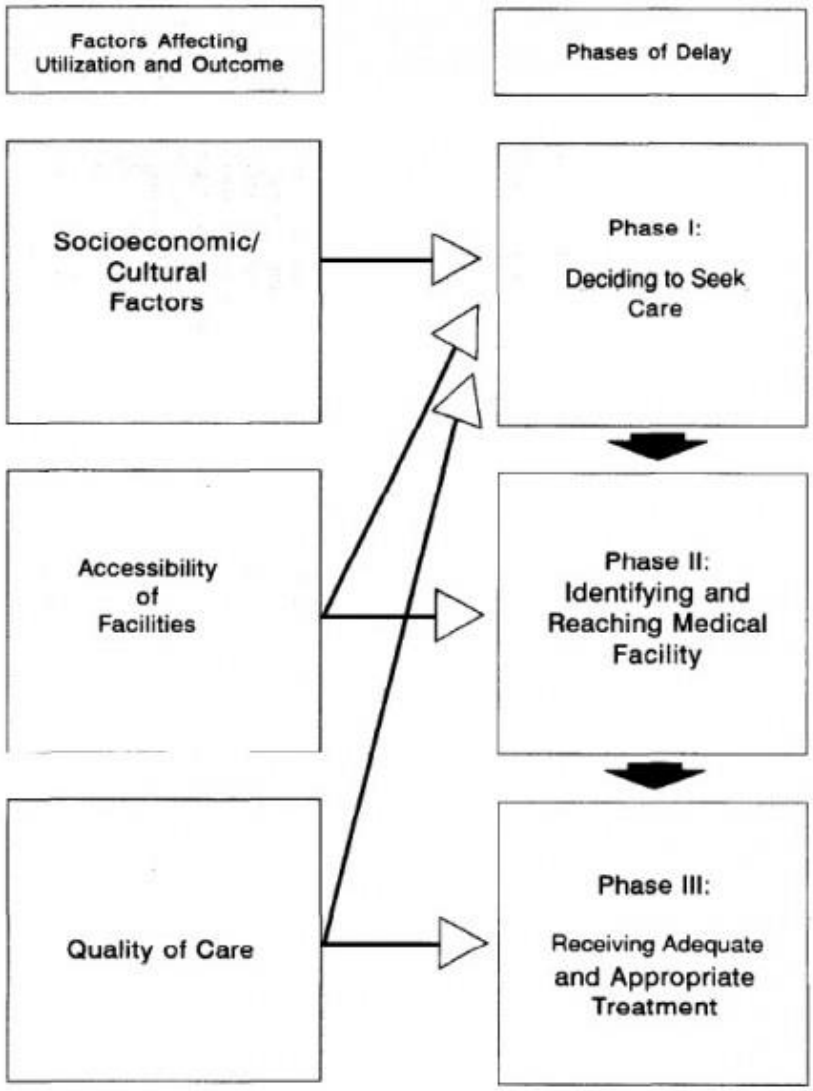


Fig. 1. The three delays model.

Original Figure from Thaddeus and Maine 1994. Image retrieved from: https://www.bu.edu/globalhealthtechnologies/2015/11/30/the-three-delays-model-maternal-mortality-in-context/ [24]

These three stages of delays play a critical role in shaping future interventions that aim to improve maternal health care.[24]

Effects of Policy Change

History of Traditional Birth Attendants in Sub Saharan Africa

Traditional Birth Attendants have played a necessary and unofficial role in providing maternal health care to African communities for generations. According to the WHO, a traditional birth attendant is "a person who assists the mother during childbirth and who initially acquired her skills by delivering babies herself or through an apprenticeship to other TBAs" and it states that "individual TBAs and their roles vary".[38]

In the 1920s, when the western world increased their efforts to 'provide' education and health care, there were isolated incidents of TBA trainings being undertaken by colonial powers and other missionary groups.[25] However, the trainings were not widespread. In the 1970s western countries and policy leaders identified the immense potential of TBAs and determined that their influence could be utilized to reduce the maternal, neonatal and infant morbidity and mortality across the continent. This 'discovery'/'epiphany' was the motivating factor behind the worldwide push to provide trainings to TBAs in the 1970s and 1980s.[25] These efforts to recognize and train TBAs were promoted and funded by organizations such as the WHO.[26-30] According to Kruske et al., the WHO was confident, in 1982, that "with strong and expanded programs, trained health workers (which included TBAs) would attend two-thirds of births by 1989".[31] By the 1990s it was recorded that worldwide 60% of all births do not occur at a health facility and that 47% of all births were assisted by "a TBA, family member or no one at all".[31] African countries were on par or above these global averages. Additionally, in some rural areas it was found that TBAs attended up to 95% of all deliveries.[31] Despite these astonishing numbers indicating the high usage of TBAs, policy leaders and makers opted to make changes.

MDGs, SDGs, and their Effects

As the 21st century approached, there was a policy shift as the Millennium Development Goals, or MDGs, were developed. The policy leaders felt as though the TBA trainings were ineffective at reducing the mortality and morbidity rates among women and children due to their stagnant, or in some cases, increasing, rates. It is worth noting that the procedures for predicting mortality rates were improved upon during this time, which would make the comparison of past and current numbers difficult to accurately evaluate and analyze. However, these improvements may have contributed to the measured increase in mortality rates; perhaps the numbers were previously underrepresented, and the improved procedures corrected that error.

As a result, the policy makers "assumed that practical difficulties, such as poor literacy and lack of 'scientific knowledge'" were factors that were "preventing trained TBAs from effectively lowering the MMR [Maternal Mortality Ratio] in countries that had invested in TBA trainings"; essentially, they wanted to move away from the use of TBAs and other 'unskilled' health workers.[31] It was this assumption that led to a Joint WHO/UNFPA/MCH Statement in 1992 declaring that TBA training and use are to be considered as a temporary or interim measure "until all women and children have access to acceptable, professional, and modern health services".[14] This statement led to the refocusing of priorities among the policymakers, who set a new guide of only allowing "skilled attendants" to assist with the delivery process. The definition of "skilled" in this context did not include TBAs and resulted in a global withdrawal of TBA training funds. Redefining these guidelines in combination with the new focus on improving maternal health through MDG-5 led to the subsequent removal of government support for the TBAs in African countries. However, this left TBAs with a lack of resources (and potentially updated knowledge) as this new 'memo' did not stop women from utilizing their services. These

statements in conjunction with the MDGs then led to a variation of TBA statuses across different African countries. For example, some countries allow TBAs to practice without officially recognizing them, while others have made the practice illegal. The lack of continuity has made it difficult to keep track of the different practices across all the different countries. The policies and guidelines enacted by these policymakers were made without full consideration of the cultural value and necessity of TBAs. The disconnect between these new rules and cultural reality caused by these policies has made different aspects of maternal health care difficult for women in Africa.

Why it's Problematic

The policy changes have not been made with African culture in mind. It appears as though these policy decisions lack input from important social factors such as culture, poverty and the affiliated challenges that influence the behaviors and choices associated with pregnancy and delivery. Initially, requiring that all women deliver with a skilled attendant at a health facility, rather than at home, seemed like a good idea, but it a superficial solution. In spite of this, the decision was accepted by African leadership and changes were made in the late 1990s and early 2000s in conjunction with the MDGs to help reduce maternal mortality.

It is widely accepted that home deliveries come with an extra risk, in particular, the inability to manage emergency complications such as hemorrhaging, which is a leading cause of maternal mortality.[5] Complications such as this cannot be managed at home, and emergency services and vehicles are often nonexistent.[32] Having women come to the hospital for delivery was essentially considered a preventative measure. Despite this widely acknowledged danger, the new guidelines are not in line with the cultural norms that exist in many African countries.

The traditional culture is clashing with modern ideas and policies that are being created by the governments' officials and the ministries of health. This clash is creating a divide between their expectations and reality of healthcare on the island. This is causing citizens to suffer from poor healthcare services and treatment. Pregnant women are a large proportion of those who are receiving inadequate healthcare and services. Traditionally, deliveries always took place at home and were attended by a TBA with their female relatives and neighbors around to help. This practice matched perfectly with the largely communal cultures.

However, even if the cultures were to allow for an easy switch from majority TBA attended deliveries at home to all 'skilled' personnel attended deliveries at a health facility, the health facilities in many countries do not have the capacity to deal with this change.

Since the majority of women use TBAs at home, the maternity wards at the health facilities are small; therefore, there is not enough space to accommodate all the laboring, delivering and postpartum mothers. In addition to the small amount of space dedicated to the maternity ward, there are not enough beds for all the women, which often leads to them sharing a bed. There may be two or three women using a single bed at one time.

These facility issues are not the only ones causing challenges for pregnant women. There are also staffing issues at the facilities. Many facilities are understaffed, especially the ones located in rural and isolated areas. Staff members at these facilities often arrive late for their shifts, leave work early, or don't show up at all. For staff members who do report to work, many fail to fulfill their responsibilities and complete their work. The reasons behind these actions are numerous and are not within the scope of this paper.

These circumstances lead to a very obvious difference in the treatment and care that women receive when delivering either at home with a TBA or at a facility with skilled, trained staff members. Additionally, many of the facilities do not allow family members to be with the laboring mothers, due to limited space restrictions. Being alone is not ideal, especially in communal cultures. With these conditions, it is difficult to convince women that delivering at the facility is desirable. This contributes greatly to the first stage of the 3 – delay system.

Frankly, the overcrowded and understaffed health facilities do not have the capacity to manage these police mandated shifts and it is leading to a disparity in who receives the recommended healthcare.

Steps to Correct it: Incorporating Culture into Policy

In order to combat this disparity between reality and policy, it is necessary to find ways of more fluidly incorporating the culture into policy. It is necessary to review the historical roles, values, and importance of TBAs that has persisted through the years. This information must be used to assess the best methods moving forward.

Despite the policymakers' desire to move in the direction of a system that excludes TBAs, the widespread utilization and trust in TBAs by women in the communities cannot be ignored. This is evident as the rate of home births accompanied by TBAs remains high in many countries despite the government's insistence to no longer deliver at home.[33]

Inevitably, there will come a time when the policymakers must accept this reality and look towards the alternatives. These alternatives will ultimately include the incorporation of TBAs in some way, which means the policymakers will have to accept the necessity of directing more

funding towards TBAs. In 2011, some of the ideas of TBA incorporation were investigated by Byrne et al., “five mechanisms for TBA integration were identified: training and supervision of TBAs; collaboration skills for health workers; inclusion of TBAs in facility-based activities; systems for communication between TBAs and defining roles for TBAs”.[34] These ideas would provide an efficient preliminary starting point for moving forward in with alternatives. However, there is no ‘right’ answer. Each country must decide for itself which methods best suit its needs. In order to accomplish this, each country must review its own history and future goals. Before considering how TBAs are utilized in Zanzibar, it’s important to understand how TBAs have traditionally been utilized throughout different regions of Africa.

CHAPTER 3

A CASE STUDY: ZANZIBAR, TANZANIA

Understanding TBAs: A short review of TBAs in Various African Countries

An analysis was conducted across nine countries by Adengoke et al. to better understand the definitions and roles of birthing attendants. They concluded, however, that it was difficult to make comparisons across the countries due to a lack of standardization in names, trainings, functions, and regulations.[40] This variation across countries contributes to the difficulty in policy decisions and implementation in practice, which in turn affects the ability to ensure that quality care is provided. Due to these differences, it was easier to look at smaller groupings of African countries.

Traditional Birth Attendants in Northern Africa: Ethiopia, Sudan (Eastern)

The studies conducted in both Ethiopia and Sudan found that TBAs are essential to providing women with maternal health care, especially in pastoral communities. In Ethiopia, after conducting a cross-sectional study with in-depth interviews and focus group discussions, Yousuf et al. concluded that "TBAs are the backbone of the maternal and child health development".[41] However, they did find that "without deploying an adequate number of trained health workers for delivery service, birth attendants remain vital for the rural community in need of maternal and child health care".[41] With 92% of women reporting that their last delivery occurred at home, it is clear that the hospitals aren't the main support utilized by women.[41-42] In Sudan, the TBAs do not have the proper training to know when they should refer women to hospitals and of the 111 TBAs interviewed, none knew how to properly conduct neonatal resuscitations.[42] This was one of the issues noted by policymakers when trying to move away from home deliveries.

Traditional Birth Attendants in Eastern Africa: Tanzania, Kenya, Uganda, Burundi

While trying to assess the success (or lack thereof) and usefulness of TBAs in Tanzania, Spangler et al. found that the transnationally designed indicators and criteria "did not result in an evaluation that was particularly accurate, reliable, or meaningful".[43] This is another case where the globalization of standards are problematic for different areas of the world. Analyzing African healthcare systems with western designed indicators is not the most efficient or effective way to evaluate and measure improvements in healthcare. This same principle is seen with the assessment of TBAs in Kenya.[44-46]

The studies performed in Kenya show that an exceptionally high perception and value are placed on TBAs by both men and women.[46] In areas where there is poor coverage provided by formal government-run healthcare facilities, TBAs continue to be key providers of maternal health care.[45] This also remains true in areas where the formal government-run health facilities are less accepted by the communities.[44] Two studies suggested the future incorporation of TBAs into the official health care system due to their influence in the communities.[45-46] Cheptum et al. recommends that "strengthening existing TBA collaborations could improve both community links to the formal health system, and the quality of care provided to pastoralist women, while remaining consistent with current government policy".[46] The same amount of trust and respect that can be seen throughout Kenya is also apparent in Uganda. While TBAs have the overall confidence, trust, and acceptance in Uganda, a different pattern can be seen in post-conflict areas of Uganda and Burundi.[47] According to Chi et al., "the prominent role of TBAs in childbirth during the conflicts in Burundi and northern Uganda has been dwindling in the post-conflict era" as a result of the government banning the use of TBAs.[47] However, they still concluded that TBAs

could play an important supportive role in facilitating births at facilities, "if appropriately integrated with the local health systems".[47]

Traditional Birth Attendants Southern Africa: Malawi, Zambia, Zimbabwe, South Africa

Zimbabwe has followed the same progression of general TBA history that was directed by policy changes over the last 50 years.[48] Zimbabwe followed suit and conducted trainings in the 1970s and 1980s, but then stopped in the 1990s.[48] The results have been problematic for Zimbabwe as the government no longer provides support to the TBAs, who are still regularly utilized by women in the country. Additionally, there has been a "mass exodus" of qualified personnel from the health system, which has caused some to characterize the Zimbabwe formal health system as 'failing'.[49] The failing system is a major factor that has led women to remain reliant upon TBAs for maternal health care and delivery services. The Zimbabwean government remains "ambivalent" with respect to the policies regarding TBAs, leaving them unsupported in their work.[49] Similar issues have been seen in Zambia.

Zambia enacted a policy change that discourages women from delivering at home with TBAs, while encouraging them to deliver at a health facility.[50] Despite these changes, TBAs remain the key providers of maternal health care in Zambia, especially in rural areas. Since many women are still delivering at home, it was important to identify the reasons behind this trend. Sialubanje et al. found that socioeconomic and physical factors were the main barriers to facility deliveries.[50] The families could not afford transportation between their home and the facility and they were also worried about bringing and eating food while they were admitted. Additionally, there were "negative attitudes towards the quality of services provided at the clinics" which further deterred women from attending a facility for delivery.[50] There should be a higher focus on

addressing the 3 stages of the 3-delay framework in Zimbabwe, Zambia, Malawi and South Africa.[49-52]

These concerns are not unfamiliar as the same ones were identified in Malawi. However, Ryan et al. believed that interventions should be directed at the organizational and planning skills of Malawian women.[51] If the women can financially plan for the trip to the facility, then there would be fewer barriers and challenges for facility deliveries.

Traditional Birth Attendants in Western Africa: Ghana, Sierra Leone, Nigeria

Like Zimbabwe, Sierra Leone and Ghana followed the general trend of maternal health care in Africa and developing, or low-income countries, across the world.[53] Ghana heavily invested in TBA trainings because three-quarters of all the country's deliveries were attended by TBAs.[53] Sierra Leone, however, banned TBAs from aiding in deliveries in 2010, which left many women with no support during labor.[54] The TBAs were put in a difficult predicament as women were still coming to them for help when they did not attend a facility for delivery. The TBAs could not say no and turn them away, and therefore, proceeded to help the women. This compassion, however, was not rewarded by the government as some argue that training TBAs "caused more harm than good".[54] Despite these views, women still trust TBAs more than the health facilities and this same pattern can be seen across Nigeria.

Rural women in Nigeria still greatly prefer TBAs to facility nurses and doctors.[55] There is a perception of fear in these facilities due to harsh treatment by the staff members. Women are not treated this way by TBAs and are therefore more inclined to utilize their services despite the risks associated with complications arising at home.[55-59] In addition, the associated costs of a facility delivery are too high for rural women and their families. The women in Nigeria definitely face

the issues addressed by the 3 – delay model. [56-59] Transportation to and from the hospital is not easy, takes time, and is costly to the point where some women would have to walk. These difficulties in conjunction with the unfavorable hospital conditions lead women to choose home deliveries attended by TBAs instead.

Traditional Birth Attendants are Vital across the African Continent

There is overwhelming evidence indicating that, despite policy leaders' opinions and desires, women in African communities still prefer the help of TBAs during their deliveries. The suggestions arising from the studies indicate a multitude of challenges and discrepancies between policy and reality. It is clear that TBAs are important to African women and they play a major role in maternal health care, especially in rural areas. Because the health facilities lack the capacity to properly care for pregnant and delivering mothers under the current policy makers, TBAs are essential for providing women with the care they deserve. It is important to consider that a solution for African countries should not necessarily mimic the health care frameworks that were devised by Western societies and it is not wrong to create a new framework. This fact needs to be considered when analyzing maternal health care presently and in the future: women's opinions and desires matter. If TBAs aren't incorporated into the formal health care systems to the satisfaction of African women, everyone is missing out.

Background: Zanzibar, Tanzania

Tanzania is located on the east coast of Africa just south of the equator and is considered a part of sub-Saharan Africa. Zanzibar is a set of two semi-autonomous islands, Unguja and Pemba, off the eastern coast of Tanzania (*Figure 4*). As a semi-autonomous state, Zanzibar has its own President, government, and ministries of health and education that are separate from mainland

Tanzania.[35] The larger island, Unguja, which is often referred to as 'Zanzibar', has a population of 896,721 people according to the 2012 Census; about 51.6% of that population is female.[36] According to Tanzania's 2015 Mortality and Health report, the MMR is estimated at 432: 100,000 live births while Zanzibar's is estimated at 350: 100,000 live births.[37-38] Both of these MMRs are higher than the global average of 216:100,000.[7]

Figure 4. Map of East Africa, Tanzania, and Zanzibar

This map shows the location of Tanzania and the two islands that consist of Zanzibar: Unguja and Pemba

Original image retrieved from: Google Maps Online

Healthcare on Zanzibar

The Healthcare System

For a relatively small population, Zanzibar has a large number of healthcare facilities and it has been estimated that about 95% of the population lives within 5km of a facility.[39] There are

three main hospitals on the Island of Unguja (*Figure 5*). The largest is Mnazi Mmoja located in Stonetown, which is the main referral hospital for the island. There are two district hospitals: Kivunge Hospital (in the Northern District) and Makunduchi (in the Southern District).

Figure 5. Map of Unguja

This map shows the locations of Mnazi Mmoja, the main referral hospital and the two district hospitals, Makunduchi and Kivunge, on Unguja.

Original image retrieved from: Google Maps Online

The majority of the healthcare facilities are Primary Health Care Units, or PHCUs. These are the lowest level facilities on the island with two or three staff members per facility. These

facilities are situated around the island and mostly distribute routine vaccinations and perform simple clinical tasks such as dressing wounds. A select few of the PHCUs are also PHCU+ facilities. These facilities are additionally supposed to support deliveries, though realistically, most facilities cannot and do not.

The next level facilities are considered PHCCs or Primary Health Care Centers and are often referred to as the "Cottage Hospitals". There are two cottages hospitals on the island, Kivunge and Makunduchi, which are located in the north district and south district, respectively. The catchment area of the PHCUs includes the small villages directly surrounding the facility, whereas the catchment area for the Cottage Hospitals includes the entire district. Both of these hospitals have outpatient and inpatient departments, a dentist, delivery services, emergency rooms, isolation rooms, and a basic operating theatre for stitches and minor surgeries.

On the island there is one tertiary or specialized hospital, Mnazi Mmoja Hospital, which is located in Stonetown, the capital of Zanzibar. This hospital acts as both the main hospital for Zanzibaris who live near town and as the main referral hospital for both Kivunge and Makunduchi Hospitals.

Maternal Healthcare

Figure 6. Map of the Healthcare Facilities in the Southern District

Image created by author. Original image retrieved from google maps

All women living on Zanzibar are allowed to deliver at one of the three main healthcare facilities (Mnazi Mmoja, Kivunge, and Makunduchi) if they can find transportation, however, these facilities are too far away for most patients. To counter the issue of distance, the PHCUs were 'upgraded' through the addition of one room for delivery. The PHCUs that can accommodate deliveries are referred to as PHCU+ facilities. For example, in the southern district of Zanzibar, three of the ten PHCUs were upgraded to PHCU+s: Jambiani, Muyuni, and Bwejuu. These facilities are named by the villages in which they are located and are outlined in purple boxes (*Figure 6*). The inclusion of these facilities was intended to decrease the distance women had to travel to reach a facility for delivery, however, availability does not guarantee access to services. These PHCU+s are closed a night, preventing many women from delivering at these facilities as the majority of births occur at night. Because public transportation does not exist at night and private transportation is far outside the majority of typical family budgets, many women choose to deliver at home. However, if the family can manage to pay for private transportation, and it is available, women must travel further distances to reach one of the three main facilities at night as the PHCU+s are closed.

Health Improvement Project Zanzibar (HIPZ)

Health Improvement Project Zanzibar (HIPZ) is a UK-based charity that was established in 2006, with the aim of improving healthcare on Zanzibar through providing support and interventions at a managerial level. The founder of HIPZ worked closely with the recently retired Principle Secretary of the Ministry of Health (MOH) when they were beginning their careers as junior doctors. Since then they maintained a strong relationship.

A Memorandum of Understanding (an official partnership) was created between the Zanzibar MOH and HIPZ in 2006. HIPZ has been providing managerial support under Zanzibar's Ministry of Health at Makunduchi Cottage Hospital in the southern district of Unguja since 2007. The hospital has successfully been able to improve and strengthen the management, hospital infrastructure, and the quality of services provided. This has largely been possible through the building of relationships between hospital staff and HIPZ volunteers and by encouraging a desire for collaboration amongst the staff. This in turn has improved overall work ethic and accountability. Due to this collaboration, the Zanzibari government asked HIPZ to expand their umbrella to also incorporate the northern district cottage hospital, Kivunge, in 2012.

In addition to overall hospital and service improvements, HIPZ works with the hospital staff to implement more focused projects. HIPZ volunteers have worked in collaboration with hospital staff to implement projects aimed at improving maternal healthcare with better services offered to pregnant women. There has been training to improve ultrasound and delivery services at the hospitals, in addition to training both Assistant Medical Officers, or AMOs, and an anesthesiologist in order to provide a cesarean section service.

In November 2010, a project was implemented to address the delay at stage 2 of the Thaddeus and Maines model. To reduce delays in reaching health facilities, Makunduchi Hospital and HIPZ began implementing a free ambulance pick-up service for pregnant women with the hope of reducing the time it takes to reach a facility.[24] To keep this service free for pregnant mothers, HIPZ provides petrol money for maternal transports from the community to Makunduchi hospital. In addition to this service, a new *daladala* (local bus transportation) route was designed to travel up the east coast between Michamvi and Makunduchi Hospital.

These are the two main projects which have taken place at Makunduchi hospital, but it is important to make further improvements at both a community level and a facility level in order reduce these delays and ultimately improve the services that are provided for women. However, it is first important to get a better understanding of the circumstances surrounding pregnancy, birth, birthing decisions and the related challenges that Zanzibari women experience on a daily basis.

After years of working solely at the hospital levels, it became clear that more community outreach needed to be conducted. This is the basis for increased cooperation and communication with the Traditional Birth Attendants and the community members. To better comprehend these experiences, HIPZ began researching the work of the Traditional Birth Attendants and their relationship to maternal health services on Zanzibar. According to the WHO, a traditional birth attendant is "a person who assists the mother during childbirth and who initially acquired her skills by delivering babies herself or through an apprenticeship to other TBAs" and it states that "individual TBAs and their roles vary".[38] This variation in roles was investigated in Zanzibar by the HIPZ Community Outreach Volunteer through semi-structured interviews to better understand the challenges faced by the TBAs.

Understanding Birthing Experiences on Zanzibar: Semi-Structured Interviews

Setting up Interviews

This section of the paper will incorporate personal experiences from four years of living in Tanzania villages as a Peace Corps Volunteer. The last two years of my Peace Corps service were spent working on Zanzibar with HIPZ as their Community Outreach Volunteer. The interviews I performed with the TBAs were semi-structured interviews. The unpublished data resulting from these interviews were used to inform the TBA proposals for the government and are discussed in

this paper. Before obtaining official permission to conduct these interviews, a large amount of foundational work was completed and is outlined in this section.

First, because it is preferable to understand and gather background perspectives from local experts, discussions with the hospital staff and managerial team about the interviews were initiated. After taking their ideas and suggestions into account, the questions for the TBA and birthing experience inquiry were adjusted to incorporate their perspectives before visiting the southern District Health Management Team (DHMT). This team of government employees is responsible for overseeing and collecting all the health-related data and information for the entire district. Additionally, this team works closely with the District Commissioners Office to allocate funding and the Shehas, or elected village leaders. The DHMT also keeps track of all TBAs and other traditional healers in the district.

This team gave advice about how to successfully and effectively acquire MOH permission for the interviews. This entire process was slow and took 9 weeks to complete, but was absolutely essential to the project. Once the official letter of permission was acquired, the DHMT very quickly helped to arrange an introductory meeting with all of the TBAs in the southern district within 10 days. At this meeting the concept of visiting each TBA in her own village for interviews was introduced; this concept was positively received. Names and contact details were recorded for all 55 TBAs who attended. A rough schedule for the visits was made with the intention of a follow-up, confirmatory phone call prior to the actual visit and interview. This phone call may have been to a fellow household member or the Sheha (village leader) since half of the birth attendants did not have their own phone.

The interviews were scheduled and conducted in villages at the location of the TBA's choosing, usually their own homes. The interview questions were designed and chosen with the intent of holding a semi-structured interview in a conversational manner between the TBA and the interviewer. This loose structure allowed for the conversation to flow, for the lead of the TBA to be followed, and for her voice to be heard. The TBAs were eager to meet and openly discuss the many challenges they face as TBAs and how their job has been changing over time. The average interview lasted around 2 hours.

The Questions

Below is a list of pre-written questions that were used as guides during the interviews:

Personal Particulars:

- What is your full name?
- Which village do you live in now?
- Where were you born?
- Where did you go to school?
- Can you please tell me YOUR story?
- Do you have children? How many?

Experience:

- How did you become a TBA? Why did you become a TBA? Who helped you learn?
- What do you like about being a TBA? What don't you like about being a TBA?
- Do you do any other work? (Is this your only job?)
- Do you see women before the day of birth? In what capacity?
- How do you help these women? What exactly do you do? Does it differ between women?
- How do you decide who to provide services for? (Do you have criteria? Do you say 'no' to anyone? If so, why? Do you receive a call and show up?)
- Do you meet women before they give birth? (Do you see them in advanced?)
- Is it planned?
- What type of services do you provide? Do you do antenatal care? Postnatal care?

- What happens when you're called? Do you go there? Does she come to you?
- What type of planning is involved?
- Can you predict which women will have problems/difficulties or emergencies?
- Do you receive any gift for helping? (Are you paid? How much?)
- How many births do you attend per month?
- During the birth, can you explain/show me exactly what you do?
- Do you use any herbal medications? When do you use them? (Throughout pregnancy? To induce birth? During labor? After?)

Challenges:

- What challenges do you face?
- What would you change about your job? What would you improve?
- What types of challenges do you see women facing?
- What are the challenges of going to the hospital?
- What would you change about the hospital? What would you improve? Has anything changed?
- What rumors (gossip), if any, exist about the hospital within the community?
- Why do you think some women choose to use a TBA?
- Why do you think some women choose to go to the hospital?
- Does anyone help them decide? Who decides?
- What types of emergencies are there? What types of emergencies can you handle? What do you do when these happen?
- Do you have the number for the hospital ambulance? Is it free to call? Is it free to use this service? Are there any charges?
- Have you called before? Why? When? Did anyone answer? Did the ambulance come? How long did it take? If it did not come, what did you do?
- Have you ever had a mother die during birth? After?
- What do you want?
- Are there trainings? Do you attend? Would you attend a training?
- If you could have any training, what would you want to learn?

Interview Insights: TBAs and Birthing Experiences on Zanzibar [61]

The Effects of Policy on Zanzibar

The traditional culture of Zanzibar is clashing with modern ideas and policies that are being created by the government's Ministry of Health. This clash is causing a divide between their expectations and reality of healthcare on the island. And while the government seems to

acknowledge this gap, they simultaneously disregard it, preferring to focus on serial meetings with long-winded discussions of the challenges rather than *acting* to reduce the gap causing the citizens to suffer from poor healthcare services and treatment.

Pregnant women are a large proportion of those who are receiving inadequate healthcare and services. Traditionally, deliveries always took place at home and were attended by a Traditional Birth Attendant with their female relatives and neighbors around to help. This practice matched perfectly with the communal culture of Zanzibaris. However, in the early 2000s the government decided that all women must deliver at a health facility and that no one should be delivering at home.

This decision was made in conjunction with the MDGs to help reduce maternal mortality. The reasoning being: for complications such as hemorrhages, which are a leading cause of maternal mortality, if women are at home nothing can be done to help them as there are no emergency medical services or vehicles on the island. Therefore, bringing all women to the hospital would serve as prevention that would help to lower maternal mortality on the island.

Birthing Protocol

Many TBAs report that, if possible, they are trying to follow the government recommendations by sending women to the hospital for their deliveries. No TBAs spoke about home deliveries as pre-planned; there seems to be little to no planning at all before delivery. They remarked that many women do understand the importance of going to the hospital, particularly in cases of emergency complications with either the mother, fetus, or both. However, if going to the hospital is not possible the TBA will help deliver the baby at home.

Traditional Birth Attendants in Action

About half of the TBAs do not have their own phone so they cannot be called. Usually, someone will come to find them at home and ask them to come over after a woman is experiencing close contractions. This generally happens at night when everyone is sleeping so the TBAs are awoken during the night and must rush to the woman's home in the dark.

Upon arrival, the birth attendants direct the woman while encouraging her to work hard and be strong. They use *khangas* (local cloth) to cover their hands while catching the babies - if they use anything at all. The umbilical cord is tied off in two places with thread that costs 500Tsh (about $0.20) for a roll. The TBA cuts the cord between these two locations with a new razor blade that has just been boiled. Many TBAs say they often arrive about an hour before the baby is pushed out giving them very little time to prepare.

Recognizing Limitations

The risks associated with giving birth at home are easily identified by the TBAs. While only a rare few feel prepared to cope with a breech delivery, most TBAs are afraid of this kind of delivery. They admittedly do not know the proper protocol for a safe breech delivery. A breech delivery occurs when the baby is not in the proper position for a head-first delivery. TBAs also understand that excessive bleeding is extremely dangerous and that seizures can be deadly to both the mother and child. In these cases, TBAs attempt to get the mother to a hospital as soon as possible.

Only eight TBAs reported being taught about resuscitation. Three stated that babies who are not breathing must first have any substances removed from their mouths and they are turned upside down and hit on the bottom to see if they will begin to breathe. Five others mentioned dunking the baby's lower half into a bucket of water in order to startle them into crying. One TBA claimed that these are behaviors of the past and that now it is necessary to breathe your own air into the baby after removing everything from the mouth and airway. Many TBAs wished that they had more training on this topic.

Delay in Reaching a Health Facility: TBA Perspectives on Challenges Faced by Delivering Mothers

Although it was expressed that many women generally understand the importance of going to a hospital due to safety reasons, they still wait before going. These women want to remain at their homes as long as possible before going to the hospital. However, many women tend to wait too long which either results in them giving birth on the way to the hospital or at their homes. This is why the TBAs do not discuss home births as though they are planned. If a woman is planning to give birth at home, the TBAs have not conveyed prior inclusion in that plan. The TBAs face many difficulties convincing women to go to the hospital as early as possible.

Reasons for Wanting to stay at Home Longer: Being with Family and Receiving Support

Laboring women choose to wait at home for as long as possible in order to be with their families – with their mothers, grandmothers, sisters, and neighbors. When at the hospital their families are not allowed to join them due to restraints on available space and the strict hospital rules. The families must wait outside while the laboring mother enters the ward by herself. They wait outside indefinitely and rarely receive an update from the nurse midwives. The TBAs often escort the laboring mother to the hospital along with her family, but they are also banned from

entering the ward. Zanzibar hosts a very communal culture and it is unsurprising then that women do not like to wait without any family around them.

Additionally, being alone and isolated from their families not only leads to loneliness and fear, but also the mistreatment of women by the hospital staff. They know the staff might not be present and even if they are, women do not receive supportive care from the staff (such as help walking to the latrine). Based on stories they know that other mothers have delivered their child with no one else around to help them because the staff members are not present. They would never be treated this way at home and the possibility of this treatment and being alone deters them from going to the hospital.

Reasons for Wanting to Stay at Home Longer: Lack of Personal Space and Comfort

Furthermore, many women are aware that they will have to share bed space with other women who are in labor due to a lack of beds (and a lack of space in delivery wards to be able to add more beds). The hospital staff is typically very busy and often leave women alone in the labor room, which causes the women to feel unattended to and alone.

Additionally, the maternity wards may contain 3 laboring beds and 2 delivery beds, but it is not uncommon for 8 to 10 women to have to share those first 3 beds. Labor is an uncomfortable process and sharing a bed is not ideal for these women. TBAs often have difficulty refuting this point when talking to pregnant women who ask, “if I can have my own space and be comfortable at home, why would I go share a bed?”

Reasons for Wanting to Stay at Home Longer: The Rumors

It has also been recorded that, in the past, not only have some women been struck by medical staff during delivery, but they are also mistreated verbally by being told to be quiet, to stop yelling, and not to cry. One birth attendant recalled a story about a woman who went to the hospital to give birth and then ended up having to deliver without a doctor or nurse present to help. She recalls the story saying, “the baby landed on the table”.

These conditions make going to the hospital anything but ideal to pregnant mothers, especially when it requires money and time to travel there. Hence, it becomes clear why women choose to wait at home as long as possible before arriving at the hospital. They do not want to wait or deliver in these conditions.

Getting to a Facility

There are many factors that have an impact on transportation including financial burdens, time conflicts, and the unavailability of the hospital ambulance.

A Financial Burden

The task of getting to the hospital is not an easy one. Many women take a *daladala* (local bus transport) in order to reach the hospital. This transport has no schedule so waiting for one often incurs further delays. For the villages which are located relatively near to the hospital, the birth attendants reported that some women walk to the hospital or get a ride on the back of a bicycle. If available, some get a lift on the back of a motorcycle. This happens in the Makunduchi area for all 6 *shehias* (villages). Sometimes women can get a lift in a privately-owned vehicle, if it is available, or an empty *daladala* can be called to come take them. These options all cost money and are significantly more expensive than a normal ride on a *daladala* or motorcycle. These prices vary

based on the distance between the village and hospital. Regardless of location, the price for a private lift is more expensive than the average community member can afford to pay. The general sentiment expressed among the TBAs is, "what other choice do they have, but to somehow find the money?"

A Time Conflict

For women who must travel to the hospital at inopportune times, such as the middle of the night or after the *daladalas* stop running, they have no choice but to find an alternative mode of transportation. Unfortunately, according to the TBAs, many of these women and their families do not know about the free ambulance service or they do not have access to its phone number, so they cannot call for assistance.

Ambulance Unavailability

The use of the ambulance service varies greatly by location. For areas within a 10-minute driving radius of the hospital, the ambulance is more likely to be utilized when the birth attendants are involved. These women have access to the mobile numbers, but often expressed a reluctance to call due to frequent unavailability. They were unable to give an estimate as to how often the ambulance is available. TBAs from these areas are friends with community members who have cars or *daladalas* and heavily rely upon them for transport. They expressed a sense of helplessness when it comes to the ambulance transportation indicating that it is not reliable. The driver doesn't pick up the phone, reports that he's too far away, or that the ambulance is in Stonetown. In these instances, the birth attendants do not wait for the driver, but rather take action by looking for other alternative forms of transportation since it is easier to find. The cost of private transportation ranges

from 10,000 – 20, 000 Tsh ($5.00 – $10.00), which is extremely expensive as the average family usually spends this amount of money on food for two weeks.

Inaccessible Ambulance

For the villages located farthest from the hospital (more than 25 minutes away by car), the TBAs do not bother calling the ambulance because, in their experience, it takes too long for the ambulance to arrive. The ambulance must travel from the hospital for 25 minutes (or more) and then return with the mother. The time between calling and arriving may be increased if the driver does not leave immediately. At this point, many women will end up giving birth on the way, so they immediately start looking for local transportation such as privately-owned vehicles or *daladalas.* They understand that this reduces the time it takes to get the women to the hospital, but it can cost up to 40,000 Tsh ($20.00).

Conspicuous Pick Ups

It was also stated that women do not like using the large, noisy and noticeable ambulance since it is not discreet. Within Zanzibari culture, people consider many types of information to be very private, particularly being pregnant and giving birth. If an ambulance comes in the dark with sirens or lights, there is concern that neighbors will think that something is wrong. Women (or perhaps their families – it is unclear who in particular feels this way) would often prefer to use inconspicuous vehicles to maintain their privacy. This influences the decision-making process, thus impacting the amount of time it takes to arrive at the hospital. Transportation proves to be difficult and if it is not dealt with properly, or in a timely manner, the woman will end up giving birth on the way to the hospital or at home.

Additional Challenges: Home Deliveries

Aside from the costs, transport, privacy, and quality of care received at the hospital, many small challenges were mentioned by the birth attendants when it comes to successful home delivery. First, TBAs are often summoned at night in villages where the majority of homes do not have electricity. They have to walk in the dark at night and then help deliver a baby in the dark or by candlelight. They have all expressed a lack of accessible flashlights. Candles and flashlights on phones are not enough to see well during a delivery.

In addition, TBAs often do not always have rubber gloves to wear during a delivery. While they know this is not a sanitary practice, they have no alternative. All TBAs expressed a desire to have a delivery kit with them; including a type of solar rechargeable light, extra gloves, string, and special scissors which could be easily cleaned and used to cut the umbilical cord. This delivery kit is one of their expressed needs for successful and safe home deliveries when they are necessary.

Challenges at the Facility: Birth Attendants' Personal Grievances

Accompanying pregnant women to the hospital, rather than performing a home delivery, yields a different set of challenges for the birth attendants. TBAs report being treated poorly and disrespectfully by hospital staff; they are often sent away. The TBAs understand that the hospitals are understaffed and that staff members are very busy. However, many TBAs feel that this does not justify being disrespected, especially given that the TBAs genuinely just want to help.

Challenges at a Facility Level: The Hospital and Staff

For pregnant women, showing up and arriving at the hospital isn't always the answer to a safe delivery, and they know this. Many members of the hospital staff arrive late for their shifts, leave work early or don't show up at all, while others refuse to see patients during times of prayer.

And even if staff members all came to work, the hospital would still be understaffed. The TBAs have difficulties telling the women to go to the hospital, because the women are aware that the staff may not be present or attentive to their needs.

Challenges at a Facility Level: Helping the Staff

The TBAs possess a general understanding about the shortage of staff in the facilities and the difficulties that this leads to in the maternity ward. One TBA noted that, "the hospital is full of many sick patients who need help and there are emergencies. If there is an emergency, the doctor must go to help, without a doubt. But this leaves others alone. If I were allowed inside, I could stand by just in case the doctor has to leave. Then our mama would never be alone. I could have caught the baby and helped her, but instead, she was alone, just by herself. If we are allowed, we can be there for assistance. We have the knowledge and experience to help even without the education".

TBAs would like to see more understanding coming from the staff at the hospital. The TBAs are aware of the space concerns in the hospital wards, but are certain that there must be a compromise. Further, TBAs expressed a desire to be introduced to the hospital staff as TBAs so they can be treated with respect. One TBA noted that, "maybe if they know us and then there is an emergency they can say 'there is an emergency. Please stay with her until we return.' There needs to be trust".

Requests: A TBA Wish List and Final Thoughts

In addition to formal introductions at the hospital with the hospital staff, the birth attendants would like to receive official training to improve their knowledge and update their techniques and expertise. Some suggested regular monthly training while others preferred quarterly. TBAs who

live further away also suggested that meetings should rotate locations. This way, the same TBAs would not always be doing the majority of the traveling.

The overall sentiment is that TBAs would like training to reduce the possible mistakes and to have guidelines for various emergencies. Many also expressed the desire to "learn about a special tool that allows you to listen to the baby and its heartbeat before the mother delivers"; they were referring to fetoscopes or pinards.

The TBAs tended to not show or express any dissatisfaction or negative. After many years of attending births, they have merely accepted the current circumstances as a reality that is unlikely to change. It is something they have very little control over and with such a stance, they do the best they can within the situation. The TBAs were all very positive, willing to participate, and eager to cooperate with the hospitals in order to make improvements to and support collaborative practices.

All TBAs expressed liking their roles as birth attendants despite the difficulties and challenges they face. They all report being happy to be actively helping other human beings, and notably many feel strongly that God has given them this role.

Why should TBAs be Incorporated?

No one country has completely solved the challenges that surround maternal health care, home deliveries, and TBAs, however, the study results and recommendations can be used as guidelines for determining the future role of TBAs on Zanzibar. The many studies collaboratively confirm that TBAs play an essential role in maternal health care, indicating that their exclusion is both unnecessary and detrimental to women's health. These studies also suggest that incorporating

birth attendants into the formal system would strengthen both the relationship and trust between local communities and hospital staff. This would also lead to improved perceptions and attitudes towards the hospital maternity staff as the TBAs would be present for accountability and emotional support. Based on the literature, no country has formally granted TBAs permission to be in the hospital setting alongside the hospital staff. This innovative step would set Zanzibar apart from the rest of the countries, providing an example and role model along the way.

What should Zanzibar do?

Based on the literature, experience, interviews, and personal observation, Zanzibar should be innovators and leaders in maternal healthcare for other low-income countries. The island has the necessary desire from both women and TBAs to support the formal incorporation of TBAs into the hospital setting.

The current hospital system is not equipped and does not have the capacity to properly provide delivery care if every woman were to miraculously have the ability to reach the facilities. The facilities are understaffed, which results in overworked and extremely busy staff members who do not have the time to properly support the mothers through their deliveries. Due to this lack of care, women are less likely to attend a facility as they greatly prefer the care that is provided by TBAs at home. However, the TBAs are ready to help at the facilities and the women want the TBAs to accompany them.

To conform with the wishes of the Zanzibari MoH of encouraging all women to deliver at health care facility, a proposal was designed based on the combination of information gathered from the government, the interviews, and literature. While the proposal follows the MoH guidelines of encouraging all women to deliver at a facility, it additionally recommends the formal

training and inclusion of TBAs into the hospitals. The proposal emphasizes the importance of TBA inclusion based on the both literature and data collected from interviewing women and TBAs on Zanzibar. This two part technical proposal and budget can be located in Chapters 4 and 5.

Other Considerations

Since local government support is critical for the success of any program, the submitted proposal had to align with the values and desires of the MoH. However, there are few other considerations that should be noted such as the effects of globalization, cultural values, and realistic goals.

Ideally, the notion of the hospital as the sole site of deliveries should be reconsidered by the government of Zanzibar. While the elimination of home deliveries stems from a desire to prevent complication-related deaths that cannot be attended to at home, there are other factors that need to be considered. First, the maternity wards at the hospitals are not equipped to handle every delivery on the island. The maternity wards are too small, have too few beds, and are already over-crowded with women sharing beds. These conditions along with too few staff members, and staff members who do not do their jobs, result in women wanting to avoid hospital deliveries at all costs. If they truly wanted to encourage all women to deliver at a facility, the hospital conditions would first need to be greatly improved, including the treatment women receive from staff members who may yell at, or even hit them, during delivery. It is currently unrealistic to think that all women could actually safely deliver at a facility under these current conditions.

Additionally, it is unfortunate that countries in Africa are now moving away from traditional models of care to ones that align with newer Westernized models, which have medicalized the birthing process and delivery. This is especially difficult since traditional models

are better suited for the rural settings in which much of the Zanzibari population resides. Coincidentally, this shift in African countries is occurring as the Western countries are now returning to the use of midwives and home deliveries accompanied by doulas. This trend of delivering at home with midwives and doulas, rather than in a hospital setting is growing throughout the West. Considering this, there may be no need for countries in Africa to adopt the Western model of medicalizing birth, particularly when many women in these Western countries are returning to a more traditional model of home deliveries.

Rather than forcing all women to deliver at a facility in the hopes of avoiding at-home complications, it may be more effective to focus on prioritizing at-risk pregnancies. If at-risk pregnancies can be identified early, these cases can receive the attention they deserve. If all women are delivering at the facility, these at-risk cases may be overlooked or missed by the staff members. If the medical and TBA community could focus on identifying at-risk pregnancies, these cases can be properly prioritized and managed to improve health outcomes for both the mother and child. The TBAs could be trained to help identify these cases and persuade women to go to the hospital due to their at-risk status. Additionally, normal non-risk pregnancy cases could deliver at home with a TBA if they choose. This would save the costs associated with traveling to the facility. This more targeted approach to identifying and managing at-risk pregnancies would be a more ideal method of preventing maternal mortality.

CHAPTER 4

TBA TRAINING PROPOSAL – PART 1: IMPROVING THE CARE AND SUPPORT PROVIDED TO PREGNANT AND LABORING MOTHERS

This proposal needs to be separated into two parts due to funding limitations

Background:

Since 2015 Health Improvement Project Zanzibar (HIPZ) has been working to bridge the gap between local communities and hospitals by improving communications between the Traditional Birth Attendants (TBAs) and staff at both the hospitals and Ministry of Health. The initiation of this project was directed by the previous Minister of Health, Mahmoud Kombo. In order to properly serve the people of Zanzibar there must be a connection to, and influence from, the communities.

Over the last two years a significant amount of progress has been made. More than 100 TBAs and parents from the community have been interviewed to further grasp the cultural nuances associated with maternal health. This information has been compiled to better comprehend the conditions and challenges faced by women.

Current situation:

Many women on Zanzibar are still delivering their children at home rather than a health facility. While there are many factors contributing to this decision, the poor condition of the maternity wards at the hospitals plays a major role.

Upon arriving at the hospital, women must enter the understaffed and overcrowded ward alone, leaving their families and support systems behind. Once inside the labor ward, women are not guaranteed their privacy or even their own beds. Many women have to share beds during the entire process of labor and sometimes even delivery.

The hospital staff are too few, as there are often only one or two staff members available to look after an entire maternity ward of up to 40 women. There is no emotional support or care provided to the laboring mothers during this time and they are often left alone because the staff is too busy and overworked. Until these conditions are changed, it will be difficult to encourage women to deliver at the hospital.

Plan for improvement:

We plan to work within the existing hierarchy of the health system to fund, implement, and conduct trainings for TBAs in order to redefine their roles. They will be trained to improve their techniques and capacity for emotional support. Upon completion of this training they will officially be allowed to enter the maternity ward with laboring mothers from their village by presenting their official TBA identification cards. It is through humanizing changes such as these that impact can be made on the lives of women.

Goal: To promote safe birthing practices and improve the overall birthing experience of women on the island.

Objective 1: Improve the Traditional Birth Attendants' ability to identify pregnancy danger signs in the community.

Objective 2: Improve the hospital birthing experience of women through including Traditional Birth Attendants inside the maternity ward.

Project Stage Outline:

Part 1:

- Stage 1: Planning and Sensitization
- Stage 2: Preparations
- Stage 3: Testing
- Stage 4: Trainings – Part 1

Part 2:

- Stage 5: Feedback Sessions
- Stage 6: Trainings – Part 2

Project stages:

Stage 1: Planning and Sensitization

Planning: Focus groups will be used at both Makunduchi (the southern district hospital) and Kivunge (the northern district hospital) in order to verify that TBAs both want to and are willing to participate in the training and fulfill their new responsibilities in the maternity ward while working together with the hospital staff members. There will be more focus groups in the north than the south because the north serves a larger catchment area. Each focus group will have six TBAs. These focus groups will take place in the communities, not at the hospital. Allowing the TBAs to remain near the familiarity of their homes will give them more freedom to answer honestly.

Planning: Management Team meetings will be held at both hospitals in order to discuss and organize the plan well, so the hospital is on board and in agreement. They will help solidify the training plan and curriculum.

Planning: Meetings with the Ministry of Health will also be held. These will require trips into town and I believe that there will be at least two, probably three meetings to get confirmation and approval on the training plan and curriculum.

Sensitization: Sheha Meetings for the north and south districts to speak with the Shehas and inform them about the trainings and changes that will happen at the maternity ward when they are completed. The Shehas are elected village leaders who will inform their respective communities about the new updates and changes in the system.

Stage 2: Preparations

Installation of curtains for the maternity wards. Upon first mentioning the idea for this project, the hospital staff were very adamant that the TBAs could not be allowed into the ward due to patient privacy and confidentiality issues. Hospital staff said that the TBAs would be able to see all the other woman and it would not be acceptable. In order to protect the rights of the women in the labor ward it is necessary to *properly* install curtains.

Preparation of TBA KITS: There are a few items that the TBAs will need to successfully fulfill their roles and responsibilities such as solar torches/lights, pinnards, manuals and ID badges. Many TBAs are called in the middle of the night and reaching the house of the laboring mother can be very difficult, particularly in villages without electricity.

Provision of Manuals. We would like to provide the TBAs with manuals, so they can always confirm their knowledge. We will create, print, and distribute training manuals, which would mainly consist of pictures and images since many TBAs are illiterate.

Preparation of Identification Cards/Badges. The hospital management team was concerned about the difficulty to differentiate between who is actually a TBA and who is a family member claiming to be a TBA. In order to remove any doubt, the TBAs should be supplied with an official badge that must be presented upon arrival if they wish to enter the maternity ward. Eventually the maternity staff will learn familiar faces, but these badges will be necessary at the beginning and for anyone who is from a smaller village (smaller villages will have fewer pregnant women so those TBAs would have fewer women to bring to the hospital).

Stage 3: Testing

Trial training with Makunduchi TBAs will include the principal secretary of the southern TBAs. This would also include paying the trainers, TBAs transportation to the hospital, and lunch with water for participants.

Collection of feedback would occur at the end of the training day so that changes and improvements can be made together regarding the training.

Stage 4: Training - Part 1

The training will consist of a few parts (this is just an outline as the exact details must still be solidified with the MoH and hospital staff). It was jointly decided by the hospital staff and trainers

that more than 20 or 25 TBAs would be too many. The training will be one day and lunch with water will be provided along with small notebooks and pens for the TBAs.

- First, the TBAs will be taught about what happens in a ward – they will learn about the purpose of partograms, how often patients are meant to be seen by the doctors on shift, how often different checks are supposed to be performed and recorded on the partograms, and what other things are to be expected within the ward. This will allow the TBAs to advocate for patients if something is not being monitored properly.

- Secondly, the TBAs will be taught how they can help while in the wards and how to avoid being in the way. This help will be categorized into two categories: emotional support (for the laboring women – what to say, what not to say) and practical support (such as being a helpful hand, massaging, holding hands, helping women to the toilet and holding the baby after the delivery rather than setting it on the side alone). The line between which responsibilities belong to the staff members and which responsibilities belong to the TBAs will be clearly defined.

- Finally, the TBAs will be taught what they can do at the community level. They will be taught more efficient ways for getting women to the appropriate health facility and which phone numbers to call at the hospital. TBA's will also be trained to identify obvious danger signs for complications.

Makunduchi Trainings: There will be two trainings.

Kivunge Trainings: There will be four trainings.

Badge ceremonies in both Makunduchi and Kivunge will bring everyone together – maternity staff, TBAs, Shehas and nearby community members – in order to officially open the ward to the newly trained TBAs. Badges will be awarded to TBA's along with certificates.

Part 1 Budget:

(An Excel file was attached to the official proposal)

Overview of the budget:

PART 1	**Stage 1: Planning and Sensitization**	1342000	610	
	Stage 2: Preparations	2652000	1205.455	
	Stage 3: Testing	263000	119.5455	
	Stage 4: Trainings! Part 1	4545000	2065.909	**4000.909**
			TOTAL:	**4,000.909**

Detailed budget:

Item	unit	number	cost/unit	Cost (Tsh)	Stage TSH	Stage USD
Stage 1: Planning and Sensitization						
Focus Groups						
2 Focus Groups: Makunduchi	12 people	12	5,000	60000		
Mak: Cookies and Water	12 people	12	2,000	24000		
Petrol - Cait to Kiv (Mak to Kiv)	2 round trips	2	40,000	80000		
Petrol - Christy to Kiv	4 round trips	4	30,000	120000		
4 Focus Groups: Kivunge	24 people	24	5,000	120000		
Kiv: Cookies and Water	24 people	24	2,000	48000		
Petrol - Mak Focus groups	2 round trips	2	30,000	60000		
Petrol - Kiv Focus Groups	4 round trips	4	30,000	120000		
Management Team Meetings						
Mak Meeting - cookies and water	10 people	10	1,000	10000		
Kiv Meeting - cookies and water	10 people	10	1,000	10000		
Petrol - Cait to Kiv (Mak to Kiv)	1 round trip	1	40,000	40000		

Petrol - Christy to Kiv	1 round trip	1	30,000	30000		
MOH Meetings						
Petrol - Cait to town	3 round trip	3	40,000	120000		
Petrol - Christy to meetings	3 round trip	3	10,000	30000		
Sheha Meetings						
Mak Meeting	22 shehas	22	5,000	110000		
Petrol - Christy to Mak	1 round trip	1	40,000	40000		
Kiv Meeting	50 Shehas	50	5,000	250000		
Petrol - Cait to Kiv (Mak to Kiv)	1 round trip	1	40,000	40000	**Cost**	**USD**
Petrol - Christy to Kiv	1 round trip	1	30,000	30000	**1342000**	**610**
Stage 2: Preparations						
Curtains						
Mak Curtain Cloth (55,000 /bed)	4 bed	4	55,000	220000		
Mak Curtain Rods	5 rods	5	10,000	50000		
Mak Curtain Installation	labor	1	40,000	40000		
Kiv Curtain Cloth	6 beds	6	55,000	330000		
Kiv Curtain Rods	7 rods	7	10,000	70000		
Kiv Curtain Installation	labor	1	40,000	40000		
TBA Kits						
Manuals - Printing (40p*100tsh)	179 manuals	179	4,000	716000		
Manuals - binding	179 manuals	179	2,000	358000		
Pinnards	26 Pinnards	26	15,000	390000		
ID Badge Paper	1 ream	1	10,000	10000		
ID Badge Printing	1 print	1	20,000	20000		
ID Badge Lamination Sheets	1 package	1	40,000	40000		
ID Badge Lamination	1 session	1	10,000	10000	**Cost**	**USD**
ID Badge Lanyards	179 TBAs	179	2,000	358000	**2652000**	**1205.45**
Stage 3: Testing						
Trainers	3 trainer	3	40,000	120000		
TBAs	5 TBAs	5	10,000	50000		
Lunch	10 people	10	3,000	30000		
Water	10 people	10	1,000	10000		
Notebooks	8 people	8	1,000	8000		
Pens	1 package	1	5,000	5000	**Cost**	**USD**
Petrol - Christy to Mak	1 round trip	1	40,000	40000	**263000**	**119.54**
Stage 4: Trainings! Part 1						
Trainers (3 at 40,000/day)	6 days	6	120,000	720000		
Mak Training						

TBAs	54 TBAs	54	10,000	540000		
Food	54 TBAs	54	3,000	162000		
Water	54 TBAs	54	1,000	54000		
Notebooks	54 TBAs	54	1,000	54000		
Pens	4 boxes	4	5,000	20000		
Petrol - Christy to Mak	2 round trips	2	40,000	80000		
Petrol - Cait to Mak	2 round trips	2	10,000	20000		
Kiv Training						
TBAs	125 TBAs	125	10,000	1250000		
Food	125 TBAs	125	3,000	375000		
Water	125 TBAs	125	1,000	125000		
Notebooks	125 TBAs	125	1,000	125000		
Pens	8 boxes	8	5,000	40000		
Petrol - Cait to Kiv (Mak to Kiv)	1 round trip	1	40,000	40000		
Petrol - Christy to Kiv	4 round trips	4	30,000	120000		
Petrol - Cait to Kiv	4 round trips	4	10,000	40000		
Badge Ceremonies						
Certificates - Paper	1 ream	1	10,000	10000		
Certificates - Printing	1 ink	1	60,000	60000		
Ceremony	Food	1	200,000	200000		
Petrol - Christy to Mak	1 round trip	1	40,000	40000		
Ceremony	Food	1	400,000	400000		
Petrol - Cait to Kiv (Mak to Kiv)	1 round trip	1	40,000	40000	**Cost**	**USD**
Petrol - Christy to Kiv	1 round trip	1	30,000	30000	**4545000**	**2065.909**

CHAPTER 5

TBA TRAINING PROPOSAL – PART 2:
IMPROVING THE CARE AND SUPPORT PROVIDED TO PREGNANT AND LABORING MOTHERS

This proposal needs to be separated into two parts due to funding limitations

Part 2 of this proposal contains the remaining stages: 5 and 6.

Stage 5: Feedback Meetings

These should take place a month or two after the graduation/badge ceremony.

Outreach/follow-up visits will be conducted with the women who have brought TBAs with them to the hospital and into the wards. These follow-up visits would take place in both the community and home. We would like to do at least 5 visits in both Makunduchi and Kivunge catchment areas. Going into the villages rather than asking the women to come to the hospital is beneficial because not only do we not want to inconvenience the mothers, but we also believe that we will receive more honest and genuine answers if they are not answering these questions at the hospital.

Feedback meetings with TBAs in both Makunduchi and Kivunge. The TBAs will be called to the hospitals to present their feedback – what works well, what doesn't work well, what are the successes, what are the challenges, and how can we improve things.

Feedback meetings with Shehas. Shehas will be called to the hospital to present feedback from their communities – how do they feel about this new service, what is going well, are there any complaints or suggestions for improvements.

Feedback meetings with the hospital maternity staff. We will seek to understand how the maternity staff members feel about the addition of the TBAs inside the maternity ward – these interviews can be conducted over two days immediately after the daily morning meetings to make sure all opinions are heard. We would like to learn what works well, what are the challenges, how do they feel about the division of responsibilities?

Feedback Meeting and collaboration with Management teams. Additional meetings will be held between those who collected the feedback and those in management in order to discuss and find solutions to different challenges which have been brought to light during the feedback gathering meetings. Snacks and water should be provided.

Feedback for the Ministry of Health. Feedback will have to be presented to the MOH from data collected in both Makunduchi and Kivunge.

Stage 6: Training - Part 2

This training will incorporate clarifications or additions to the curriculum from the first training – the details for this curriculum, however, will not be known until after the feedback meetings. The format from the first set of trainings has been replicated for the second training.

Part 2 Budget:

(An Excel file was attached to the official proposal)

Overview of Part 2 Budget:

PART 2	**Stage 5: Feedback Sessions**	5,025,000	2,284.091	
	Stage 6: Trainings! Part 2	3,765,000	1,711.364	**3,995.455**
			TOTAL:	**3,995.455**

Detailed Part 2 Budget:

Item	unit	number	cost/unit	Cost (Tsh)	Stage TSH	Stage USD
Stage 5: Feedback Sessions						
Solar Torches	179 TBAs	179	15,000	2685000		
Pinnards	12 Pinnards	12	15,000	180000		
Makunduchi						
TBA Feedback	54 TBAs	54	5,000	270000		
Sheha Feedback	22 Shehas	22	5,000	110000		
Maternity Staff Feedback - snacks	10 people	10	1,000	10000		
Management Meeting - snacks	10 people	10	1,000	10000		
Petrol - Christy to Mak	1 round trip	1	40,000	40000		
Kivunge						
TBA Feedback	125 TBAs	125	5,000	625000		
Sheha Feedback	50 Shehas	50	5,000	250000		
Maternity Staff Feedback - snacks	15 people	15	1,000	15000		
Management Meeting - snacks	10 people	10	1,000	10000		
Petrol - Christy to Kiv	1 round trip	1	30,000	30000		
Petrol - Cait to Kiv (Mak to Kiv)	1 round trip	1	40,000	40000		
MOH Meetings						
Printing docs for minister	2 sessions	2	5,000	10000		
Petrol - Cait to town	2 round trips	2	40,000	80000		
Petrol - Christy to MOH	2 round trips	2	10,000	20000		
Follow Up Visits and Outreach						
Petrol - Mak Follow-up	5 visits	5	30,000	150000		
Petrol - Christy visits	5 round trips	5	30,000	150000		
Petrol - Kiv Follow ups	5 visits	5	30,000	150000		
Petrol - Cait to Kiv (Mak to Kiv)	1 round trip	1	40,000	40000	**Cost**	**USD**

Petrol - Christy to Kiv	5 trips	5	30,000	150000	**5025000**	**2284.09**
Stage 6: Training! Part 2						
Trainers (3 at 40,000/day)	6 days	6	120,000	720000		
Mak Training						
TBAs	54 TBAs	54	10,000	540000		
Food	54 TBAs	54	3,000	162000		
Water	54 TBAs	54	1,000	54000		
Notebooks	54 TBAs	54	1,000	54000		
Pens	4 boxes	4	5,000	20000		
Petrol - Christy to Mak	2 round trips	2	40,000	80000		
Petrol - Cait to Mak	2 round trips	2	10,000	20000		
Kiv Training						
TBAs	125 TBAs	125	10,000	1250000		
Food	125 TBAs	125	3,000	375000		
Water	125 TBAs	125	1,000	125000		
Notebooks	125 TBAs	125	1,000	125000		
Pens	8 boxes	8	5,000	40000		
Petrol - Cait to Kiv (Mak to Kiv)	1 round trip	1	40,000	40000		
Petrol - Christy to Kiv	4 round trips	4	30,000	120000	**Cost**	**USD**
Petrol - Cait to Kiv	4 round trips	4	10,000	40000	**3765000**	**1711.36**

REFERENCES

1 US Census Bureau, D. I. S. (n.d.). International Programs, International Data Base. Retrieved from https://www.census.gov/population/international/data/idb/worldpop.php

2 WHO | Maternal health. (2017). *World Health Organization*. Retrieved from http://www.who.int/topics/maternal_health/en/

3 WHO | Maternal mortality ratio (per 100 000 live births). (2014). *World Health Organization*. Retrieved from http://www.who.int/healthinfo/statistics/indmaternalmortality/en/

4 Brown, H., Small, M., Berg, C., Simpson, L., & Eckler, K. (2017). Overview of maternal mortality and morbidity - UpToDate. Retrieved November 9, 2017, from https://www.uptodate.com/contents/overview-of-maternal-mortality-and-morbidity

5 Blencowe, H., Cousens, S., Jassir, F. B., Say, L., Chou, D., Mathers, C., … Lawn, J. E. (2016). National, regional, and worldwide estimates of stillbirth rates in 2015, with trends from 2000: a systematic analysis. *The Lancet Global Health*, *4*(2), e98–e108. https://doi.org/10.1016/S2214-109X(15)00275-2

6 Hokenson, R. F., Baldwin, W., Barringer, F., Carlson, M., & Wright, M. (1988). POPULATION REFERENCE BUREAU. Retrieved from www.prb.org.

7 Say, L., Chou, D., Gemmill, A., Tunçalp, Ö., Moller, A.-B., Daniels, J., … Alkema, L. (2014). Global causes of maternal death: a WHO systematic analysis. *The Lancet Global Health*, *2*(6), e323–e333. https://doi.org/10.1016/S2214-109X(14)70227-X.

8 World Health Organization. Saving mothers' lives. (2016). Retrieved from http://www.who.int/reproductivehealth/publications/monitoring/infographic/en/

9 World Health Organization. Interactive MMR Maps. http://gamapserver.who.int/gho/interactive_charts/mdg5_mm/atlas.html

10 Steady, Filomina Chioma "African Feminism: A Worldwide Perspective", Chapter 4.

11 Aiddo, Agnes Akosua "Asante Queen Mothers in Government and Politics in the Nineteenth Century".

12 Lebeuf, Annie "The Role of Women in the Political Organization of African Societies" Paulme, Denise (ed*), Women of Tropical Africa*, Berkeley and Los Angeles, University of California Press, 1971.

13 World Health Organization. 2010. Classifying Health Workers. Geneva, WHO; 2010.

14 World Health Organization. 1992. Traditional Birth Attendants: A Joint WHO/UNFPA/UNICEF Statement. Geneva, WHO; 1992.

15 United Nations Population Fund. 1996. Evaluation Findings: Support to Traditional Birth Attendants. Retrieved from http://www.unfpa.org/monitoring/pdf/n-issue7.pdf

16 Olenja, Joyce M. (1990). Remuneration of traditional birth attendants [letter] / Joyce M. Olenja. http://www.who.int/iris/handle/10665/45623

17 Hodnett E. Traditional birth attendants are an effective resource. *BMJ* 2012; **344**: e365.

18 Ray AM, Salihu H. The impact of maternal mortality interventions using traditional birth attendants and village midwives. *J Obstet Gynaecol (Lahore)* 2004; **24**: 5–11.

19 Chopra, M., & Mason, E. (2015). Millennium Development Goals: background. *Archives of Disease in Childhood*, *100 Suppl 1*(Suppl 1), S2-4. https://doi.org/10.1136/archdischild-2013-305437

20 United Nations Millennium Development Goals. (n.d.). Retrieved from http://www.un.org/millenniumgoals/bkgd.shtml

21 United Nations Millennium Development Goals. (n.d.). Retrieved from http://www.un.org/millenniumgoals/maternal.shtml

22 Improve maternal health WHERE WE STAND: Target Fast Facts. (n.d.). Retrieved from http://www.un.org/millenniumgoals/pdf/Goal_5_fs.pdf

23 World leaders adopt Sustainable Development Goals | UNDP. (n.d.). Retrieved November 9, 2017, from http://www.undp.org/content/undp/en/home/presscenter/pressreleases/2015/09/24/undp-welcomes-adoption-of-sustainable-development-goals-by-world-leaders.html

24 Thaddeus, S., & Maine, D. (1994). Too far to walk: maternal mortality in context. *Social Science & Medicine (1982)*, *38*(8), 1091–110. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/8042057

25 Leedam E. Traditional birth attendants. *Int J Gynaecol Obstet* 1985; **23**: 249–74.

26 Stephens C. Training urban traditional birth attendants: Balancing international policy and local reality: Preliminary evidence from the slums of India on the attitudes and practice of clients and practitioners. *Soc Sci Med* 1992; **35**: 811–7.

27 World Health Organization (1978): Alma-Ata: Primary Health Care, Series 1. WHO, Geneva (1978), pp 2 -6.

28 Traditional Birth Attendants: A Field Guide to Their Training, Evaluation, and Articulation with Health Services. World Health Organization Offset Publication No. 44. 1979. https://eric.ed.gov/?id=ED171921 (accessed March 28, 2018).

29 World Health Assembly, 35. (1982). Seventh general programme of work covering a specific period (1984-1989 inclusive). World Health Organization. http://www.who.int/iris/handle/10665/156674

30 World Health Organization (1985: New Delhi, India). Report of the Consultation on Approaches for Policy Development for Traditional Health Practitioners, including Traditional Birth Attendants, 4-8 February 1985. Geneva. Retrieved from http://www.who.int/iris/handle/10665/62673

31 Kruske S, Barclay L. Effect of shifting policies on traditional birth attendant training. *J Midwifery Womens Health* 2004; **49**: 306–11.

32 Stein C, Wallis L, Adetunji O. THE EFFECT OF THE EMERGENCY MEDICAL SERVICES VEHICLE LOCATION AND RESPONSE STRATEGY ON RESPONSE TIMES. *South African J Ind Eng August* 2015; **26**: 26–40.

33 Adegoke A, van den Broek N. Skilled birth attendance-lessons learnt. *BJOG An Int J Obstet Gynaecol* 2009; **116**: 33–40.

34 Byrne A, Morgan A. How the integration of traditional birth attendants with formal health systems can increase skilled birth attendance. *Int J Gynecol Obstet* 2011; **115**: 127–34.

35 Zanzibar | Culture, History, & People | Britannica.com. (n.d.). Retrieved November 9, 2017, from https://www.britannica.com/place/Tanzania

36 Office of Chief Government Statistics Zanzibar. (n.d.). Retrieved November 9, 2017, from http://www.ocgs.go.tz/profile.php

37 2012 POPULATION AND HOUSING CENSUS Population Distribution by Administrative Areas. (2013). Retrieved from http://www.tzdpg.or.tz/fileadmin/documents/dpg_internal/dpg_working_groups_clusters/cluster_2/water/WSDP/Background_information/2012_Census_General_Report.pdf

38 United Republic of Tanzania, Administrative Boundaries: Mortality and Health Report. (n.d.). Retrieved from https://www.nbs.go.tz/nbs/takwimu/census2012/Mortality_and_Health_Monograph.pdf

39 Mugheiry et al. (2006). Malaria Elimination in Zanzibar. Retrieved from http://skills-depot.com/imsp/MalariaEliminationZanzibarparte1.pdf

40 Adegoke A, Utz B, Msuya SE, van den Broek N. Skilled Birth Attendants: Who is Who? A Descriptive Study of Definitions and Roles from Nine Sub Saharan African Countries. *PLoS One* 2012; **7**: e40220.

41 Yousuf J, Mulatu T, Nigatu T, Seyum D. Amref Health Africa | Exclusion of Traditional Birth Attendants from Formal Health Systems in Ethiopia | Research. https://www.amrefcanada.org/why-amref/amref-is-african/research/exclusion-of-traditional-birth-attendants-from-formal-health-systems-in-ethiopia/ (accessed March 28, 2018).

42 Ali AA, Siddig MF. Poor practice and knowledge among traditional birth attendants in Eastern Sudan. *J Obstet Gynaecol (Lahore)* 2012; **32**: 767–9.

43 Spangler SA. Assessing skilled birth attendants and emergency obstetric care in rural Tanzania: the inadequacy of using global standards and indicators to measure local realities. *Reprod Health Matters* 2012; **20**: 133–41.

44 Reeve M, Onyo P, Nyagero J, Morgan A, Nduba J, Kermode M. Knowledge, attitudes and practices of traditional birth attendants in pastoralist communities of Laikipia and Samburu counties, Kenya: a cross-sectional survey. *Pan Afr Med J* 2016; **25**: 13.

45 Sindiga I. Towards the participation of traditional birth attendants in primary health care in Kenya. *East Afr Med J* 1995; **72**: 459–64.

46 Cheptum JJ, Gitonga MM, Mutua EM, Mukui SJ, Ndambuki JM, Koima WJ. Perception about traditional birth attendants by men and women of reproductive age in rural Migori County, Kenya. *Int J Africa Nurs Sci* 2017; **7**: 55–61.

47 Chi PC, Urdal H. The evolving role of traditional birth attendants in maternal health in post-conflict Africa: A qualitative study of Burundi and northern Uganda. *SAGE Open Med* 2018; **6**: 205031211775363.

48 Jacobson JL. Maternal mortality and morbidity. Zimbabwe's birth force. *Newsl Womens Glob Netw Reprod Rights*: 16–7.

49 Choguya NZ. Traditional Birth Attendants and Policy Ambivalence in Zimbabwe. *J Anthropol* 2014; **2014**: 1–9.

50 Sialubanje C, Massar K, Hamer DH, Ruiter RA. Reasons for home delivery and use of traditional birth attendants in rural Zambia: a qualitative study. *BMC Pregnancy Childbirth* 2015; **15**: 216.

51 Ryan J, Hamela G, Chome N, Kabondo C, Hosseinipour M, Tang J. Experiences and beliefs of Malawian women who have delivered with a traditional birth attendant. *Int J Gynecol Obstet* 2015; **129**: 38–41.

52 Nolte A. Traditional birth attendants in South Africa: professional midwives' beliefs and myths. *Curationis* 1998; **21**: 59–66.

53 Ampofo DA, Nicholas DD, Amonoo-Acquah MB, Ofosu-Amaah S, Neumann AK. The training of traditional birth attendants in Ghana: experience of the Danfa Rural Health Project. *Trop Geogr Med* 1977; **29**: 197–203.

54 Is Sierra Leone right to ban traditional birth attendants? | Kati Whitaker | Global development | The Guardian. https://www.theguardian.com/global-development/poverty-matters/2012/jan/17/traditional-birth-attendants-sierra-leone (accessed March 28, 2018).

55 Why Rural Women in Nigeria Prefer Traditional Birth Attendants to Hospital Midwives | GHNGN. http://ghnetwork.org/article/why-rural-women-in-nigeria-prefer-traditional-birth-attendants-to-hospital-midwives/ (accessed March 28, 2018).

56 Itina SM. Characteristics of traditional birth attendants and their beliefs and practices in the Offot Clan, Nigeria. *Bull World Health Organ* 1997; **75**: 563–7.

57 Akpala CO. An evaluation of the knowledge and practices of trained traditional birth attendants in Bodinga, Sokoto State, Nigeria. *J Trop Med Hyg* 1994; **97**: 46–50.

58 Ebuehi OM, Akintujoye I. Perception and utilization of traditional birth attendants by pregnant women attending primary health care clinics in a rural Local Government Area in Ogun State, Nigeria. *Int J Womens Health* 2012; **4**: 25–34.

59 Abioye-Kuteyi EA, Elias SO, Familusi AF, Fakunle A, Akinfolayan K. The role of traditional birth attendants in Atakumosa, Nigeria. *J R Soc Promot Health* 2001; **121**: 119–24.

60 World Health Organization. Strategies Towards Ending Preventable Maternal Mortality (EPMM) 2015. Retrieved from http://apps.who.int/iris/bitstream/handle/10665/153540/WHO_RHR_15.03_eng.pdf?sequence=1

61 Baumhart (2016). *Unpublished*. Semi-Structured Interviews with Traditional Birth Attendants: Challenges with Delivery in the Healthcare System on Zanzibar.